



2006-11-13 4600-0106P.ST251.txt
SEQUENCE LISTING

<110> Izumi et al.

<120> NOVEL DIABODY-TYPE BISPECIFIC ANTIBODY

<130> 4600-0106P

<140> US 10/642,284

<141> 2003-08-18

<150> JP 2003-038643

<151> 2003-02-17

<160> 46

<170> PatentIn version 3.1

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nnnccgcggc acgttgatt tccagcttg 29

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nnncggccga gctcacggta accagcgta 29

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<223> n is a, c, g, or t

<400> 7
nnngatatcc agatgaccca gag 23

<210> 8
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2006-11-13 4600-0106P.ST251.txt

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<223> n is a, c, g, or t

<400> 8
nnnccgcggc gcgggtaatc tgc 23

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<223> n is a, c, g, or t

<400> 9
nnnccatggc ccaggtgcaa ctggtg 26

<210> 10
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<400> 10
nnncggccga gctaacggtc acc 23

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<400> 11

nnngatatcg tgatgaccca gagccc 26

<210> 12

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<400> 12

nnnccgcggc gcgttaatt tccactttgg tgccac 36

<210> 13

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<400> 13

gcctggaatg gattggtaac atttatac 27

<210> 14

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<212> DNA

<213> Artificial Sequence

2006-11-13 4600-0106P.ST251.txt

<220>
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<400> 14
gataaatgtt accaatccat tccaggc 27

<210> 15
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized nucleotide O h5H-A93T (+)

<400> 15
tattactgca cgcgcaagtgg c 21

<210> 16
<211> 21
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<220>
<223> Synthesized nucleotide P h5H-A93T (-)

<400> 16
gccactgcgc gtgcagtaat a 21

<210> 17
<211> 38
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<400> 17
attnaagaac aaagtgcacca tgacgggtga taccagca 38

<210> 18
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2006-11-13 4600-0106P.ST251.txt

<220>
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<400> 18
tgctggatc aaccgtcatg gtcactttgt tcttaaat 38

<210> 19
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<220>
<223> Synthesized nucleotide S h5H-Y27D(+)

<400> 19
gcctcaggcg ataccttac g 21

<210> 20
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized nucleotide T h5H-Y27D(-)

<400> 20
cgtaaaggt a tcgcctgagg c 21

<210> 21
<211> 35
<212> DNA
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<220>
<223> Synthesized nucleotide U h5H-M69LT73R(+)

<400> 21
caaagtgacc ctgacggttg atcgcagcat ttcga 35

<210> 22
<211> 35
<212> DNA
<213> Artificial Sequence

2006-11-13 4600-0106P.ST251.txt

<220>
<223> Synthesized nucleotide V h5H-M69LT73R(-)

<400> 22
tcgaaatgct gcgatcaacc gtcagggtca ctttg 35

<210> 23
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized nucleotide W h5H-I75SS76RA78V(+)

<400> 23
gataccagca gtcgcacggc ctatatggaa 30

<210> 24
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized nucleotide X h5H-I75SS76RA78V(-)

<400> 24
ttccatatacg accgtgcgac tgctggatc 30

<210> 25
<211> 354
<212> DNA
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<222> (1)..(354)
<223> 5H

<400> 25
cag gtc cag ctg cag cag tct ggg tct gag atg gcg agg cct gga gct
48
Gln Val Gln Leu Gln Gln Ser Gly Ser Glu Met Ala Arg Pro Gly Ala

1 5 10 15

2006-11-13 4600-0106P.ST251.txt

tca gtg aag ctg ccc tgc aag gct tct ggc gac aca ttc acc agt tac
96
Ser Val Lys Leu Pro Cys Lys Ala Ser Gly Asp Thr Phe Thr Ser Tyr

20 25 30

tgg atg cac tgg gtg aag cag agg cat gga cat ggc cct gag tgg atc
144
Trp Met His Trp Val Lys Gln Arg His Gly His Gly Pro Glu Trp Ile

35 40 45

gga aat att tat cca ggt agt ggt act aac tac gct gag aag ttc
192
Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe

50 55 60

aag aac aag gtc act ctg act gta gac agg tcc tcc cgc aca gtc tac
240
Lys Asn Lys Val Thr Leu Thr Val Asp Arg Ser Ser Arg Thr Val Tyr

65 70 75 80

atg cac ctc agc agg ctg aca tct gag gac tct gcg gtc tat tat tgt
288
Met His Leu Ser Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys

85 90 95

aca aga tcg ggg ggt ccc tac ttc ttt gac tac tgg ggc caa ggc acc
336
Thr Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr

100 105 110

act ctc aca gtc tcc tcc
354
Thr Leu Thr Val Ser Ser

115

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<210> 26
<211> 342
<212> DNA
<213> Mouse

<220>
<221> CDS
<222> (1)..(342)
<223> 5L

<400> 26
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48
Asp Ile Leu Met Thr Gln Ser Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

gat caa gcc tcc atc tct tgc aga tct agt cag aac att gta cat aat
96
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Ile Val His Asn

20 25 30

aat gga atc acc tat tta gaa tgg tac ctg caa agg cca ggc cag tct
144
Asn Gly Ile Thr Tyr Leu Glu Trp Tyr Leu Gln Arg Pro Gly Gln Ser

35 40 45

cca aag ctc ctg atc tac aaa gtt tcc gac cga ttt tct ggg gtc cca
192
Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser Gly Val Pro

50 55 60

gac agg ttc agt ggc agt gga tca ggg aca gat ttc aca ctc aag atc
240
Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65 70 75 80

2006-11-13 4600-0106P.ST251.txt

agc aga gta gag gct gag gat ctg gga att tat tac tgc ttt caa ggt
288
Ser Arg Val Glu Ala Glu Asp Leu Gly Ile Tyr Tyr Cys Phe Gln Gly

85 90 95

tca cat att cct ccc acg ttc gga ggg ggg acc aag ctg gaa atc aaa
336
Ser His Ile Pro Pro Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys

100 105 110

cgt gcg
342
Arg Ala

<210> 27
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1)..(357)
<223> Synthesized chimeric Sequence(hOH)

<400> 27
cag gtg caa ctg gtg cag agc ggc ggt ggc gtt gtg cag ccg ggc cgc
48
Gln Val Gln Leu Val Gln Ser Gly Gly Val Val Gln Pro Gly Arg

1 5 10 15

agc ctg cgc ctg tct tgc aaa gcg agc ggc tat acc ttt acg cgc tat
96
Ser Leu Arg Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr

20 25 30

2006-11-13 4600-0106P.ST251.txt

acc atg cat tgg gtg cgc cag gcg ccg ggc aaa ggt ctg gaa tgg att
144
Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile

35 40 45

ggc tat att aac ccg tct cgc ggc tat acc aac tat aat cag aaa gtg
192

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Val

50 55 60

aaa gat cgc ttt acc att agc cgc gat aac tct aaa aac acc acc gcg ttt
240

Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Ala Phe

65 70 75 80

ctg cag atg gat agc ctg cgc ccg gaa gat acc ggc gtg tat ttt tgc
288

Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys

85 90 95

gcg cgc tac tat gat gac cat tat agc ctg gat tat tgg ggc cag ggc
336

Ala Arg Tyr Tyr Asp Asp His Tyr Ser Leu Asp Tyr Trp Gly Gln Gly

100 105 110

acc ccg gtg acc gtt agc tcg

357

Thr Pro Val Thr Val Ser Ser

115

<210> 28

<211> 324

<212> DNA

<213> Artificial Sequence

2006-11-13 4600-0106P.ST251.txt

<220>
<221> CDS
<222> (1)..(324)
<223> Synthesized chimeric Sequence(hOL)

<400> 28
gat atc cag atg acc cag agc ccg agc tct ctg agc gcg agc gtg ggc
48
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

1 5 10 15

gat cgc gtg acc att acg tgc agc gcg tct agc tct gtg agc tat atg
96
Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Ser Val Ser Tyr Met

20 25 30

aac tgg tac cag caa acc cca ggc aaa gcg ccg aaa cgc tgg att tat
144
Asn Trp Tyr Gln Gln Thr Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr

35 40 45

gat acc agc aaa ctg gcg agc ggc gtg ccg agc cgc ttt agc ggc tct
192
Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser

50 55 60

ggt agc ggc acc gat tat acg ttt acc att agc tct ctg cag ccg gaa
240
Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu

65 70 75 80

gat att gcg acc tat tac tgc cag caa tgg agc tct aac ccg ttt acc
288
Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr

85 90 95

2006-11-13 4600-0106P.ST251.txt

ttt ggc cag ggt acc aaa ctg cag att acc cgc gcg
324
Phe Gly Gln Gly Thr Lys Leu Gln Ile Thr Arg Ala

100 105

<210> 29
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1)..(354)
<223> Synthesized chimeric Sequence(h5H)

<400> 29
cag gtg caa ctg gtt cag agc ggc gcg gaa gtg aaa aag ccg ggc gcg
48
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala

1 5 10 15

tcg gtt aaa gtg agc tgc aaa gcc tca ggc tat acc ttt acg agc tac
96
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr

20 25 30

tgg atg cat tgg gtg cgc cag gcc ccg ggt cag ggc ctg gaa tgg atg
144
Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35 40 45

ggt aac att tat ccg ggc agc ggt ggc acc aac tat gcg gaa aaa ttt
192
Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe

50 55 60

aag aac cgc gtg acc atg acg cgt gat acc agc att tcg acg gcc tat

2006-11-13 4600-0106P.ST251.txt

240
Lys Asn Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr

65 70 75 80

atg gaa ctg agc cgc ctg cgt agc gat gac acc gcc gtg tat tac tgc
288

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys

85 90 95

gcg cgc agt ggc ggt ccg tat ttt ttc gat tac tgg ggc cag ggt acg
336

Ala Arg Ser Gly Gly Pro Tyr Phe Asp Tyr Trp Gly Gln Gly Thr

100 105 110

ctg gtt acc gtg agc tcg
354

Leu Val Thr Val Ser Ser

115

<210> 30

<211> 342

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<221> CDS

<222> (1)..(342)

<223> Synthesized chimeric Sequence(h5L)

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48

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

gaa ccg gcg tcg att agc tgc cgc agc tcg cag aac atc gtg cat aat
96

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Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Ile Val His Asn

20

25

30

aac ggc att acc tat ctg gaa tgg tat ctg cag aaa ccg ggc caa agc
144

Asn Gly Ile Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser

35

40

45

ccg cag ctg tta att tat aaa gtg agc gat cgc ttt agc ggc gtg ccg
192

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser Gly Val Pro

50

55

60

gat cgc ttt tcg ggc agc ggt agt ggc acc gat ttt acg ctg aaa att
240

Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65

70

75

80

agc cgc gtg gaa gcg gag gat gtt ggc gtg tat tac tgc ttt cag ggc
288

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly

85

90

95

agc cat atc ccg cca acc ttt ggc caa ggc acc aaa gtg gaa att aaa
336

Ser His Ile Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys

100

105

110

cgc gcg

342

Arg Ala

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<211> 118

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<400> 31

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 32

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized chimeric Sequence(h5H-m02)

2006-11-13 4600-0106P.ST251.txt

<400> 32

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Thr
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 33

<211> 118

<212> PRT

<213> Artificial Sequence

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<223> Synthesized chimeric Sequence (h5H-m03)

<400> 33

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

2006-11-13 4600-0106P.ST251.txt

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Met Thr Val Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 34
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized chimeric Sequence (h5H-m04)

<400> 34

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

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35

40

45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Met Thr Val Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 35

<211> 118

<212> PRT

<213> Artificial Sequence

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<223> Synthesized chimeric Sequence(h5H-m05)

<400> 35

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Asp Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

2006-11-13 4600-0106P.ST251.txt

Lys Asn Lys Val Thr Met Thr Val Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 36
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized chimeric Sequence (h5H-m06)

<400> 36

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Met Thr Val Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Thr

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 37
<211> 118
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<213> Artificial Sequence

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<223> Synthesized chimeric Sequence(h5H-m07)

<400> 37

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Leu Thr Val Asp Arg Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

2006-11-13 4600-0106P.ST251.txt

Leu Val Thr Val Ser Ser
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<210> 38
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<223> Synthesized chimeric Sequence (h5H-m08)

<400> 38

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Leu Thr Val Asp Arg Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 39

2006-11-13 4600-0106P.ST251.txt

<211> 118
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<223> Synthesized chimeric Sequence(h5H-m09)

<400> 39

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Leu Thr Val Asp Arg Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Thr
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 40
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<213> Artificial Sequence

<220>
<223> Synthesized chimeric Sequence(h5H-m10)

2006-11-13 4600-0106P.ST251.txt

<400> 40

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Met Thr Val Asp Thr Ser Ser Arg Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Thr
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 41

<211> 118

<212> PRT

<213> Mouse

<400> 41

Gln Val Gln Leu Gln Gln Ser Gly Ser Glu Met Ala Arg Pro Gly Ala
1 5 10 15

2006-11-13 4600-0106P.ST251.txt

Ser Val Lys Leu Pro Cys Lys Ala Ser Gly Asp Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Lys Gln Arg His Gly His Gly Pro Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Lys Val Thr Leu Thr Val Asp Arg Ser Ser Arg Thr Val Tyr
65 70 75 80

Met His Leu Ser Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
115

<210> 42
<211> 114
<212> PRT
<213> Mouse

<400> 42

Asp Ile Leu Met Thr Gln Ser Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Ile Val His Asn
20 25 30

Asn Gly Ile Thr Tyr Leu Glu Trp Tyr Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Ile Tyr Tyr Cys Phe Gln Gly
 85 90 95

Ser His Ile Pro Pro Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110

Arg Ala

<210> 43

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized chimeric protein sequence (hOH)

<400> 43

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1 5 10 15

Ser Leu Arg Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr
 20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Val
 50 55 60

Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Ala Phe
 65 70 75 80

2006-11-13 4600-0106P.ST251.txt

Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys
85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Ser Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Pro Val Thr Val Ser Ser
115

<210> 44

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized chimeric protein sequence (hOL)

<400> 44

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

Asn Trp Tyr Gln Gln Thr Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr
35 40 45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Gln Ile Thr Arg Ala

100

105

<210> 45
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthesized chimeric protein sequence (h5H)

<400> 45

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Asn Ile Tyr Pro Gly Ser Gly Gly Thr Asn Tyr Ala Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Gly Gly Pro Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 46
<211> 114
<212> PRT

2006-11-13 4600-0106P.ST251.txt

<213> Artificial Sequence

<220>

<223> Synthesized chimeric protein sequence (h5L)

<400> 46

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Ile Val His Asn
20 25 30

Asn Gly Ile Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly
85 90 95

Ser His Ile Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Ala

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